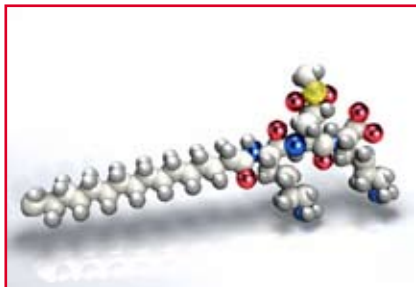




# MATRIXYL<sup>®</sup>synthe'6<sup>™</sup>

Patent WO 2010/082175



Palmitoyl-KMO<sub>2</sub>K

**Function:**

Wrinkle filler.

**Definition:**

A dioxygenated lipopeptide Palmitoyl-Lysyl-Dioxymethionyl-Lysine.

**Properties:**

Evens out skin relief and smoothes wrinkles from the inside by rebuilding the skin where it is needed, particularly on the forehead and crow's feet.

**Characteristics:**

Matrikine-like effect that stimulates the synthesis of 6 major constituents of the skin matrix and dermal-epidermal junction (collagen I, III, IV, fibronectin, hyaluronic acid and laminin 5).

**Points of interest:**

MATRIXYL<sup>®</sup>synthe'6<sup>™</sup> is derived from the tripeptide KMK naturally found in collagen VI and laminins.

**INCI Name:**

(Check PCPC on-line dictionary for latest INCI name)

Glycerin – Water (Aqua) – Hydroxypropyl Cyclodextrin – Palmitoyl Tripeptide-38

**Applications:**

Skincare and make-up designed to fight wrinkles.

**Formulation:**

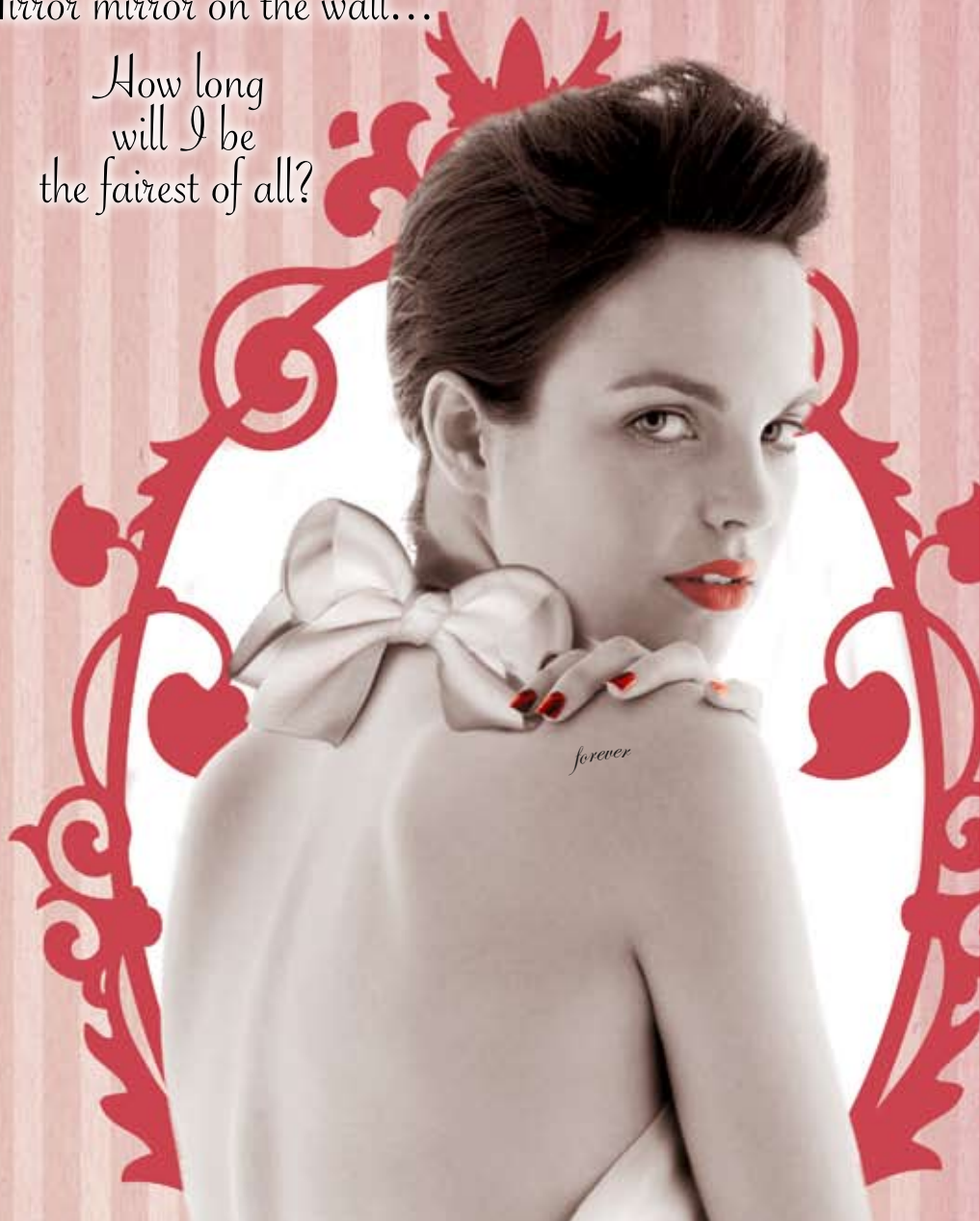
Water soluble.  
Add to the emulsion between 25°C and 80°C.


**Recommended use level:**

2%


Mirror mirror on the wall...

How long  
will I be  
the fairest of all?





## A powerful peptide that boosts 6 skin-rebuilding essentials

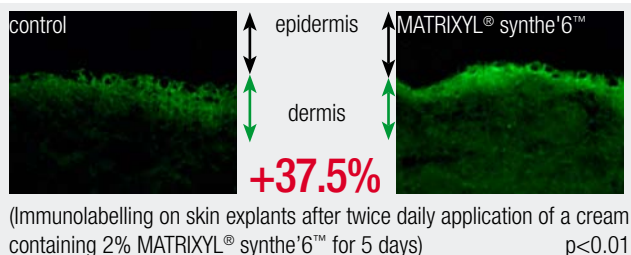
BEFORE	AFTER 2 MONTHS
	

**3-Dimensional decrease in wrinkles by 31% up to 100%**

## SYNTHESIS OF 6 MAJOR CONSTITUENTS OF THE SKIN

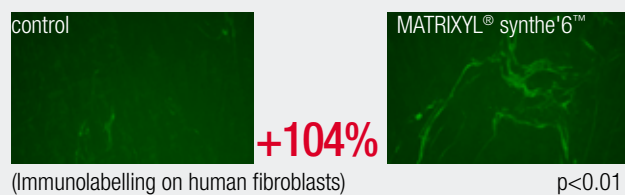
### ● COLLAGEN I, III, IV & HSP47

#### ● COLLAGEN I



Tests performed with 2% MATRIXYL® synthe'6™.

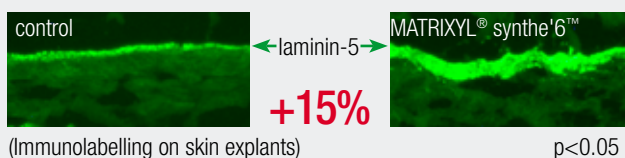
#### ● COLLAGEN III



● COLLAGEN IV ..... **+42%**,  $p < 0.01$   
(ELISA method on human fibroblasts)

● HSP47 ..... **+123%**,  $p < 0.01$   
(Western blot on human fibroblasts)  
Chaperone protein HSP47 is one of the components necessary for the maturation of collagens I to V.

### ● LAMININ-5



### ● HYALURONIC ACID

● Hyaluronic acid ..... **+174%**,  $p < 0.01$   
(ELISA method on human keratinocytes)

### ● FIBRONECTIN

● Fibronectin ..... **+59%**,  $p < 0.01$   
(ELISA method on human fibroblasts)

● Laminin-5 ..... **+75%**,  $p < 0.01$   
(ELISA method on human keratinocytes)

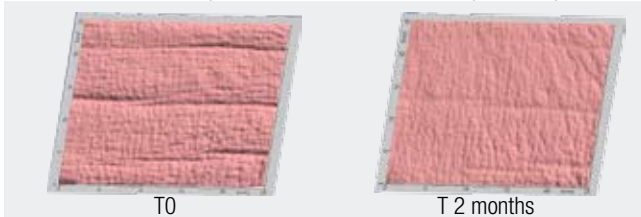
**MATRIXYL® synthe'6™ significantly increases the synthesis of 6 major constituents of the matrix and dermal-epidermal junction.**

## ANTI-WRINKLE EFFICACY

25 female volunteers aged from 42 to 70 years old with forehead lines and crow's feet. Twice daily application of a cream containing 2% MATRIXYL® synthe'6™ for 2 months vs placebo.

### ● ON THE FOREHEAD - FOITS

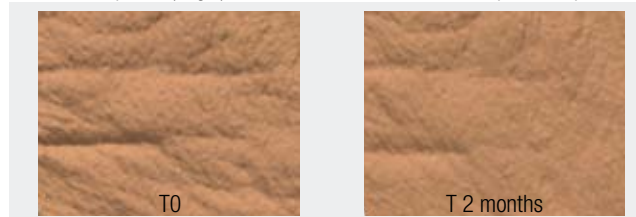
● Lifting effect ..... **+28%/TO**,  $p < 0.05$ , up to **+77%**  
● Wrinkle volume ..... **-31%/TO**,  $p = 0.055$ , up to **-100%**  
● Maximum wrinkle depth ..... **-16.3%/TO**,  $p < 0.05$  up to **-62%**



### ● ON THE CROW'S FEET

FOITS

● Lifting effect ..... **+12.6%/placebo**,  $p < 0.05$   
● Wrinkle volume ..... **-21.1%/placebo**,  $p < 0.05$   
SILFLO® (n=24 volunteers)  
● Surface occupied by deep wrinkles (>100 µm) **-28.5%/placebo**,  $p < 0.05$   
● Main wrinkle average depth ..... **-15%/placebo**,  $p < 0.05$   
● Wrinkle spread (angle) ..... **+8.4%/placebo**,  $p < 0.05$



**MATRIXYL® synthe'6™ rebuilds the skin network that keeps the skin smooth. After 2 months, the forehead and crow's feet wrinkles are evened out just like a facelift.**

## Formulation

## Wrinkle Smoothing Intervention gel-cream

formula Ref.: SED1003840 C

<b>Part A</b> .....%	<b>Part D</b> .....%	<b>Part H</b> .....%
Water deionized	Optasense G82 (Acrylic Acid / Alkylmethacrylate Copolymer)	Perfume (Azalea, Expressions Parfumées)
Optasense G83 (Carbomer, Croda)	DC 200 5 cps (Dimethicone, Dow Corning)	0.20
<b>Part B</b> .....%	<b>Part E</b> .....%	<b>Protocol:</b>
Crillet 1 (Polysorbate 20, Croda)	Potassium Sorbate	Part A: sprinkle the carbomer into water and allow swelling for 30 minutes without stirring. Weigh and mix Part B. Weigh and mix Part C. Add Part C to Part A and mix. Weigh and mix Part D. Pour Part B and Part D into Part A+C with helix stirring (s= 500 rpm). Extemporaneously, add Part E to Part A+B+C+D; homogenize well during 1 hour. Neutralize with Part F and homogenize well. Add Part G and homogenize well. Add Part H and homogenize well.
Crodamol GTCC (Caprylic/Capric Triglyceride, Croda)	<b>Part F</b> .....%	
Cromollient DP3A (Di-PPG-3 Myristyl Ether Adipate, Croda)	Water deionized	
<b>Part C</b> .....%	Sodium hydroxide 30%	
Butylene Glycol	<b>Part G</b> .....%	
Preservatives	<b>MATRIXYL® synthe'6™ (Sederma)</b>	

**Non-warranty:** This formulation has been subject to limited stability tests and has been shown to perform well. However formulators adopting this approach should ensure to their own satisfaction long term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.  
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